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Dr. R.K. Tandon

STUDY OF CYBER SECURITY CHALLENGES AND ITS EMERGNING TRENDS ON LATEST TECHNOLOGIES

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ABSTRACT

Cyber Security plays a key role in the field of information technology. Increasing information has become one of the biggest challenges of today. When we think about cyber security, the first thing that comes to our mind is 'cybercrime' which is becoming more and more common every day. Various governments and companies are taking decisive action to curb cybercrime. Despite various measures, online safety is still a major problem for many. This paper focuses on the online security challenges faced by the latest technologies. It also focuses on the latest cyber security strategies, ethics and situations that change the face of online safety.

Keywords: cyber security, cyber-crime, cyber ethics, social media, cloud computing, android apps.

1. INTRODUCTION

Today a person is able to send and receive any type of data which may be email or audio or video with the click of a button but have you ever wondered how securely your data id is transferred to someone else there is a leak of information? The answer lies in online security. Nowadays the web could be a fast-growing foundation in lifestyle .In today's world of technology many modern technologies change a person's face. But thanks to these emerging technologies we are not able to protect our confidential information in the most efficient way and that is why these days cybercrime is increasing day by day. Today more than 60 percent of the total amount of money purchased is made online, so this field requires a high level of security for jobs that show beyond and beyond. So online safety has become a recent issue. The scope of cyber security is not only

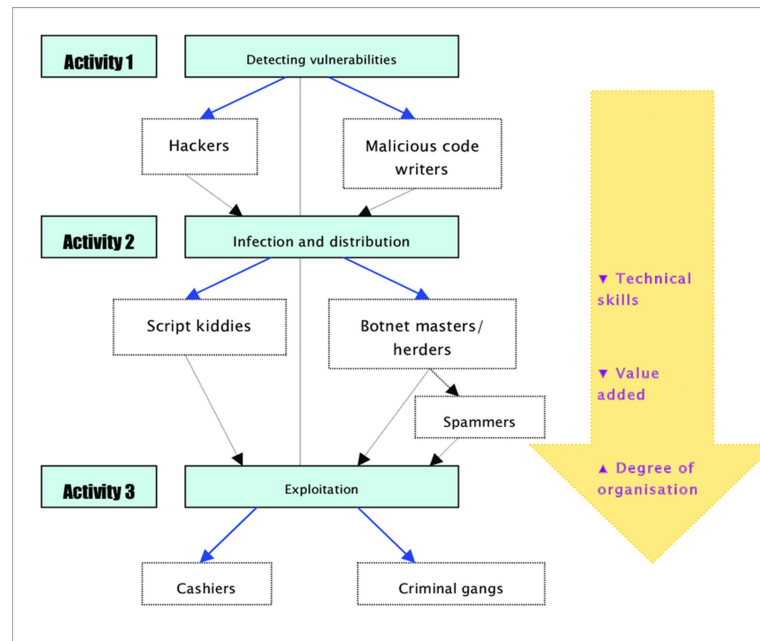
limited to access to information in the IT industry but also to various other fields such as cyber space etc.

Indeed the most recent innovations such as cloud computing, versatile computing, E-commerce, net keeping money etc. also require a high level of security. As these technologies carry some important information about a person their safety has become a must-have. Improving cyber security and protecting critical information infrastructure is critical to each country's security and economic well-being. Making the Web more secure (and ensuring Web clients) has gotten to be portion of the advancement of unused administrations and government arrangement. Fighting cybercrime requires a comprehensive and secure approach. Considering that specialized measures alone cannot avoid any wrongdoing, it is imperative that law requirement offices are permitted to effectively examine and arraign cybercrime. Today many countries and governments have put forth extraordinary effort to protect their online identity in order to prevent the loss of important information. Everyone should also be trained in this online safety and save themselves from this growing cybercrime.

2. CYBER CRIME

Cybercrime is the term for any illegal activity that uses a computer as its main method of committing and stealing. The U.S. Department of Justice expands the definition of cybercrime to include any illegal computer use for archiving. A growing list of cybercrime includes cybercrime, such as cybercrime and cybercrime, as well as computer based variations of existing crimes, such as existing crimes, such as identity theft, roaming, bullying and terrorism. it has been a major problem for people and nations.

Generally in the vernacular, cybercrime can be defined as cybercrime and cyberbullying in order to strengthen the identity of a person or to sell illegal or victimized items or to interfere with the operation of a malicious system programs. As day by day technology plays a major role in human life cybercrime will also grow with the advancement of technology.



3. CYBER SECURITY

Security and security of the information will continuously be best security measures that any organization takes care. We are directly living in a world where all the data is kept up in a advanced or a cyber-shape. Social organizing destinations give a space where clients feel secure as they associated with companions and family. Within the case of domestic clients, cyber-criminals would proceed to target social media destinations to take individual information. Not as it were social organizing but moreover amid bank exchanges a person must take all the specified security measures. innovation and healthcare officials across the nation, Silicon Valley Bank found that companies accept cyber assaults are a genuine danger to both their information and their trade coherence.

Incidents	Jan- June 2012	Jan- June 2013	% Increase/ (decrease)
Fraud	2439	2490	2
Intrusion	2203	1726	(22)
Spam	291	614	111
Malicious code	353	442	25
Cyber Harassment	173	233	35
Content related	10	42	320
Intrusion Attempts	55	24	(56)
Denial of services	12	10	(17)
Vulnerability reports	45	11	(76)
Total	5581	5592	

Table: I

The above comparison of Cyber Security Incidents reported on Cyber999 in Malaysia from January – June 2012 and 2013 explicitly exposes online security threats. As crime increases so do security measures. According to a U.S. study

innovation and healthcare officials across the country, Silicon Valley Bank found that companies accept cyber assaults are a genuine risk to both their information and their trade progression.

98% of companies are keeping up or expanding their cyber security assets and of those, half are expanding assets committed to online assaults this year.

The lion's share of companies are planning for when, not on the off chance that, cyber assaults happen.

Only one-third are totally sure within the security of their data and indeed less certain approximately the security measures of their commerce accomplices

There will be new attacks on devices based on the Android operating system, but it will not be large. True tablets that share the same operating system as smartphones mean that they will soon be run by a malware like those platforms. The number of malware examples for Macs will continue to grow, albeit smaller than in the case of PCs. Windows 8 will allow users to build apps on almost any device (PCs, tablets and smart phones) running Windows 8, so it will be possible to build malicious programs like those of Android, which is why these are some of the predictable security features in online.

4. TRENDS CHANGING CYBER SECURITY

Here mentioned below are some of the trends that are having a huge impact on cyber security.

4.1 Web servers

The peril of ambushes on web applications to remove data or to spread malignant code holds on. Cyber wrongdoers scatter their harmful code through bona fide web servers they've compromised. But data-stealing ambushes, several of which get the thought of media, are besides a gigantic hazard. Directly, we require a more critical complement on securing web servers and web applications. Web servers are especially the finest arrange for these cyber guilty parties to require the data. Along these lines one must persistently utilize a more secure browser especially in the midst of basic trades in organize not to drop as a prey for these infringement.

4.2 Cloud computing and its services

These days all little, medium and huge companies are gradually receiving cloud administrations. In other words the world is gradually moving towards the clouds. This most recent slant presents a enormous challenge for cyber security, as activity can go around conventional focuses of review. Furthermore, as the number of applications accessible within the cloud develops, arrangement controls for web applications and cloud services will moreover have to be advance in arrange to avoid the misfortune of profitable data. In spite of the fact that cloud administrations are creating their possess models still a parcel of issues are being brought up almost their security. Cloud may

give monstrous openings but it ought to continuously be famous that as the cloud advances so as its security concerns increment.

4.3 APT's and targeted attacks

APT (Advanced Persistent Threat) may be a entirety unused level of cyber wrongdoing product. For a long time organize security capabilities like net sifting or IPS have compete a key half in recognizing such focused on assaults (for the most part when the introductory compromise). As assailants develop bolder and utilize a part of loose methods, arrange security ought to co-ordinated with elective security administrations so as to discover assaults. There upon one ought to make strides our security procedures so as to halt a parcel of dangers returning inside the future.

4.4 Mobile Networks

Today we are able to communicate with anyone in any part of the world. But in these mobile networks security is a major concern. These days firewalls and other security measures are becoming more and more dangerous as people are using tools like tablets, phones, PCs etc. all of which also require additional security other than those available in the applications used. We should always keep in mind the security issues of these mobile networks. Some mobile phone networks that are particularly prone to cybercrime need to be alert to potential security issues.

4.5 IPv6: New internet protocol

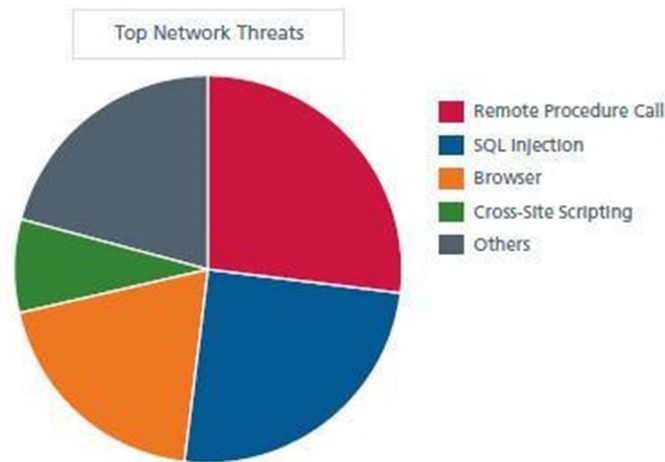
IPv6 is a new Internet protocol that replaces IPv4 (older version), which has been the backbone of our networks in general and the Internet at large. Protecting IPv6 is not just a question of carrying IPv4 capabilities. Although IPv6 is an additional substitute for making more IP addresses available, there are some very important changes to the protocol that need to be considered in security policy. It is therefore always best to switch to IPv6 as soon as possible to reduce the risk of cybercrime.

4.6 Encryption of the code

Encryption is the process of encrypting messages (or information) in such a way that the listener or cyber criminals can read them. This is usually done using an encryption key, which specifies how the message should be written. Encryption at first level protects data privacy and its integrity. But the increased use of encryption poses additional challenges to cyber security. Encryption is

also used to protect data in transit, for example data transmitted over networks (example, Internet, e-commerce), cell phones, wireless microphones, wireless intercoms etc. So by coding one can know if there is a leak for information.

Hence the above are some of the trends changing the face of cyber security in the world. The top network threats are mentioned in below Fig -1.



The above pie chart shows about the major threats for networks and cyber security.

5. ROLE OF SOCIAL MEDIA IN CYBER SECURITY

With so many people in a highly connected world, companies need to find new ways to protect personal information. Social networking plays a major role in cyber security and will greatly contribute to personal online threats. The acceptance of a communication platform among employees is increasing sharply as well as the threat of attack. With social media or social networking sites becoming more and more commonplace, it has become a major forum for cybercriminals to steal private information and steal important information.

In a world where we are quick to discard our personal information, companies must ensure that they are quick to identify threats, respond in real time, and avoid violations of any kind. As people are easily attracted to these social networking sites, hijackers use them as an attraction to get the information and data they need. People should therefore take appropriate steps especially in dealing with social media to avoid the loss of their information.

The ability of individuals to share information with millions of audiences is at the heart of a particular challenge presented by a business communications platform. In addition to giving anyone the power to disseminate sensitive commercial information, social media also provide the same ability to disseminate false information, which can be just as dangerous. The rapid spread of false information on social media is among the emerging risks identified in the 2013 Global Risks reports.

Although social media can be used for cybercrime these companies cannot stop using social media as they play an important role in advertising the company. Instead, they should have solutions that will inform them of the threat so that they can fix it before any real damage occurs. However companies should understand this and recognize the importance of analyzing information especially in public discussions and provide appropriate security solutions to avoid risks. One should manage the communication platform through specific policies and appropriate technologies.

6. CYBER SECURITY TECHNIQUES

6.1 Access control and password security

The concept of a username and password has become a basic way to protect our information. This could be one of the first steps toward online safety.

6.2 Authentication of data

The reports that we get must continuously be verified by some time recently downloading that it ought to be checked in the event that it has started from a trusted and a reliable source which they are not changed. Confirming of these reports is as a rule done by the against infection computer program show within the gadgets. Hence a great hostile to infection program is additionally basic to ensure the gadgets from infections.

6.3 Malware scanners

This is a software that normally scans every file and document in your system to detect malicious code or malicious viruses. Viruses, worms, and Trojan horses are examples of malicious software that are commonly collected and termed malware.

6.4 Firewalls

A firewall is a software program or piece of software that helps detect criminals, viruses, and worms that try to access your computer online. All incoming and outgoing messages go through the existing firewall, checking each message and blocking those that do not meet the specified security conditions. Firewalls therefore play a key role in detecting malware.

6.5 Anti-virus software

Antivirus program could be a computer program that identifies, anticipates, and takes activity to incapacitate or evacuate malevolent computer program programs, such as infections and worms. Most antivirus programs incorporate an auto-update include that empowers the program to download profiles of unused infections so that it can check for the unused infections as before long as they are discovered. An against infection program could be a must and fundamental need for each framework.

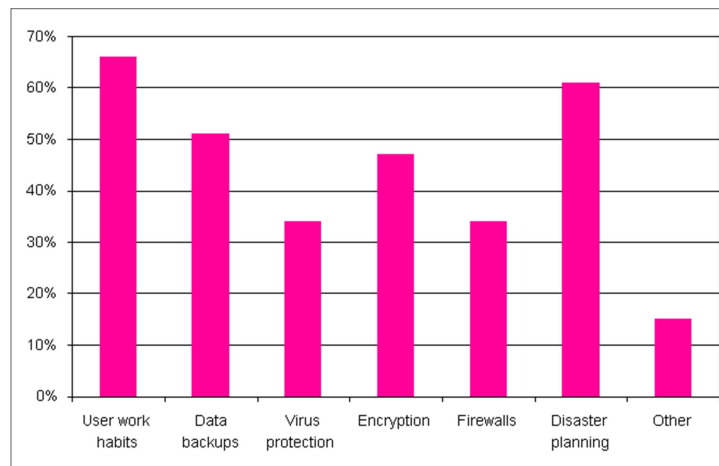


Table II: Techniques on cyber security

7. CYBER ETHICS

Cyber ethics is nothing but internet code. If we do these things online, there is a good chance we will use the Internet more efficiently and safely. Below are a few of them:

- USE the Internet to communicate and communicate with other people. Email and instant messaging make it easy to keep in touch with friends and family members, communicate

with coworkers, and share ideas and information with people all over the city or half the world.

- Do not be a cyber-bully. Do not name them, lie about them, send them embarrassing pictures, or do anything else to try to hurt them.
- Internet is considered as world's largest library with information on any topic in any subject area, so using this information in a correct and legal way is always essential.
- Do not operate others accounts using their passwords.
- Never try to send any kind of malware to other's systems and make them corrupt.
- Never share your personal information to anyone as there is a good chance of others misusing it and finally you would end up in a trouble.
- When you're online never pretend to be the other person, and never try to create fake accounts on someone else as it would land you as well as the other person into trouble.
- Always adhere to copyrighted information and download games or videos only if they are permissible.

The above are a few cyber ethics one must follow while using the internet. We are always taught proper rules from our very early stages the same here we apply in cyber space.

8. CONCLUSION

Computer security may be an endless theme that's getting to be more imperative since the world is getting to be exceedingly interconnected, with systems being utilized to carry out basic exchanges. Cyber wrong doing proceeds to wander down diverse ways with each Unused Year that passes and so does the security of the data. The most recent and troublesome advances, beside the unused cyber devices and dangers that come to light each day, are challenging organizations with not as it were how they secure their foundation, but how they require modern stages and intelligence to do so. There's no culminate arrangement for cyber violations but we ought to attempt our level best to play down them in arrange to have a secure and secure future in cyber space.

REFERENCES

- [1.] A Sophos Article 04.12v1.dNA, eight trends changing network security by James Lyne.
- [2.] Cyber Security: Understanding Cyber Crimes- Sunit Belapure Nina Godbole
- [3.] Computer Security Practices in Non Profit Organisations – A NetAction Report by Audrie Krause.
- [4.] A Look back on Cyber Security 2012 by Luis corrons – Panda Labs.

[5.] IEEE Security and Privacy Magazine – IEEECS “Safety Critical Systems – Next Generation” July/ Aug 2013.

[6.] CIO Asia, September 3rd, H1 2013: Cyber security in malasia by Avanthi Kumar.

Virtual Reality

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ABSTRACT

Virtual Reality is an era which is primarily based totally on laptop which assimilates specialized enter and output gadgets with the aid of using permitting the person to have interaction with and revel in an synthetic created surroundings as though they had been with inside the actual global. A digital fact gadget is likewise permitting the person to go looking and have interaction with a 3 dimensional digital or synthetic surroundings created with the aid of using the designer. In the digital global, the person can do all matters just like ordinary as throwing a tennis ball or as extraordinary as flying via space. And all this stuff may be made to arise most effective due to a hand gesture or a nod. Virtual Reality is a 3 dimensional laptop primarily based totally interactive surroundings which simulate fact. Virtual Reality can carry us right into an imaginary global which seems precisely just like our personal global. For designing a digital fact gadget, one should offers with thoughts of spatial relationships and laptop snap shots which in flip are affiliated to mathematics, physics, arts and additionally human psychology. In those digital or artificial environments, one should bear in mind diverse physics legal guidelines like gravity, air resistance, and velocity etc.

1. INTRODUCTION

The idea of virtual reality is constructed at the herbal aggregate of words: the virtual and the real. The former means "nearly" or "conceptually," which ends up in an enjoy this is near-real via using technology. Software creates and serves up digital worlds which are skilled through customers who put on hardware gadgets along with goggles, headphones, and unique gloves. Together, the person can view and have interaction with the digital global as though from within. Virtual Reality (VR) may be described as use of pc modelling & simulations which assist someone in interacting with synthetic 3-D surroundings. This 3-D synthetic surroundings suggests truth with assist of a few interactive gadgets which could ship and get hold of facts and are worn in shape of goggles, headsets, gloves or frame fits etc.

In different words, virtual reality may be described as use of laptop pics to simulate presence bodily in synthetic or digital surroundings & to create a sensible searching world. Virtual Reality is a actual time and interactive technology; because of this that that the laptop is evolved to

robotically hit upon inputs given through consumer and may alter without delay the virtual world. Most more modern digital fact surroundings are visible reviews that are displayed both on a laptop display screen or projector; however, a few simulations might also require extra sensory facts like audio system or headphones. Some-times , customers also can make interplay with a digital surroundings both through use of general enter gadgets inclusive of a keyboard, mouse etc. In practice, it's far very hard presently to get an excessive enjoy of virtual reality often due to technical boundaries on processing power & picture resolutions. However, the ones boundaries are anticipated to subsequently be overcome through use of greater powerful, value powerful processor and imaging technology over time.

2. LITERATURE REVIEW

Virtual fact era is turning into perfect and perfect with the useful resource of laptop hardware, software program and digital international integration era, which could simulate the actual international dynamically. The dynamical situation could make response in step with human's form, language and so forth immediately, through which an actual time communiqué is shaped among humans and digital international. Therefore digital fact era has been implemented in sports activities training, aggressive sports activities, etc. and is gambling a significant position in aggressive sports activities development. This paper inns documentation method, professor interview and mathematical facts to analyze the software of digital fact era in aggressive sports activities concluding studying its significance and destiny development. Its purpose is to make medical step forward in digital fact era software in aggressive sports activities, which could develop aggressive sports activities development, to develop our use to be sports activities electricity and to pressure humans to undertaking themselves.

Bharath et al. displayed their paper on "Importance & Applications of Virtual Reality in Designing sector". In this paper; Virtual reality is characterized as an immersing innovation that can gives capability to realize real working environment. Assist, talks are made on approaches required to realize virtual reality. Paper too investigates significance and utilization of virtual reality in designing segment like plan, fabricating, inspection, tooling, gathering, prototyping etc.

Additionally ; benefits , costs confinements and dangers related whereas embracing VR are too secured and highlighted.

Radharamanan et al. spoken to their paper on "A study of virtual reality advances, its applications and limitations". In this paper different innovations that are utilized for virtual reality are highlighted like Head Mounted Show (HMD) , Caves , Hand Gloves, 3D Mouse, Space ball, Full

body suits, Video camera and sensor etc. In expansion ; specialized angles of virtual reality technologies are also covered. At last advantages & limitations of using virtual reality in present and for future are also summarized.

3. NEED OF VIRTUAL REALITY

Due to expanding headway in advances & to fulfill developing require of clients; Virtual reality is presently a day's consider most immersing and productive technologies which has not as it were overcome restrictions of expanded reality but moreover made human life less difficult and simpler. A few of the developing needs of virtual reality are as takes after:

- 1) Reenact the genuine world powerfully by utilizes of computer program, equipment and virtual world integration innovations.
- 2) Can imagine to have physical nearness in places within the genuine world as well as in fanciful universes.
- 3) Without any genuine threat; we will be portion of the activity on the virtual safe environment.
- 4) Virtual reality can offer assistance us to imagine working environment where individuals cannot go particularly damages or moo temperature environment by making same atmospheric conditions by utilize of computer design program and utilize of headsets, gloves etc. & make them feel same physical presence.
- 5) Innovation like virtual reality breathes life back into conventional computer based learning in other circles exterior of preparing from both a coach and learner point of view.



Figure 1: Virtual Reality

4. VIRTUAL REALITY USE CASES

The best example of VR may be a three dimensional (3D) motion picture. Utilizing uncommon 3D glasses, one gets the immersive encounter of being a portion of the movie with on-spot presence. The leaf falling from a tree shows up to drift right before the watcher, or the shot of a speeding car going over a cliff makes the watcher feel the chasm's profundity and may allow a few watchers the feeling of falling. Basically, the light and sound impacts of a 3D motion picture make our vision and hearing faculties accept that it's all happening right before us, in spite of the fact that nothing exists in physical reality.

Technological progresses have empowered advance upgrade past standard 3D glasses. One can presently discover VR headsets to investigate indeed more. Helped by computer frameworks, one can presently play "genuine" tennis (or other sports) right in their living room by holding sensor-fitted racquets for playing inside a computer-controlled diversion reenactment. The VR headset that players wear on their eyes gives the figment of being on a tennis court. They move and attempt to strike depending upon the speed and heading of the approaching ball and strike it with the sensor-fitted racquets. The exactness of the shot is surveyed by the game controlling computer, which is appeared inside the

VR diversion accordingly—showing whether the ball was hit as well difficult and went out of bounds or was hit as well delicate and was halted by the net.

5. WORKING PRINCIPLE OF VIRTUAL REALITY

The Virtual Reality framework works on the taking after rule:

- It to begin with tracks the physical developments within the genuine world, at that point a computer redraws the virtual world to reflect those developments. The upgraded virtual world is sent to the out-put (to the client within the genuine world).
- In this case, the yield is sent back to a head mounted show. Subsequently, the client feels "submerged" within the virtual world as on the off chance that they are within the virtual world itself as all they can observe is their rendered developments in virtual environment.

6. TYPES OF VIRTUAL REALITY

There are many types of Virtual Reality, considering the following :

1. Semi-Immersive VR

There are numerous sorts of Virtual Reality, considering the taking after :

Semi-Immersive VR Most of the time, when individuals think of VR, they picture completely immersive frameworks just like the HTC Vive or Oculus Quest. Unlike these advances, semi-immersive VR offers clients a blend of genuine and virtual intelligently components. At its most essential, semi-immersive VR is one of the most seasoned sorts of this innovation, but nowadays companies are applying it differently. 4-D motion pictures may be the conventional utilize of semi-immersive VR, but presently the innovation is fundamentally utilized for instruction. Flight test systems including a moving cockpit and mimicked environment on screens permit pilots to prepare without the dangers of flying a genuine air ship.

2. Expanded Reality

Like semi-immersive VR, increased reality (AR) doesn't completely drench the client, but it contrasts in that it overlays virtual and genuine components. AR applications show computer-generated things over real-time pictures of physical environments.

AR shows a lot of promise for several industries. Online retailers can use it to project to-scale 3-D images of products onto the user's home.

3. Collaborative VR

Critics of VR claim it could lead to people becoming too immersed and thus isolated, but the technology can bring people closer together than before. Collaborative VR takes video conferencing programs like Skype to the next level.

This form of VR ventures the same virtual environment to a few clients at once, no matter how distant separated they may be. As a result, they can share thoughts and work together on ventures.

4. Fabricating VR

One of the businesses with the foremost to pick up from VR is fabricating. VR and AR innovation can guarantee security and quality at each step of the fabricating prepare, from plan to stock management. Workers can utilize VR to prepare in recreated conditions some time recently venturing onto the factory floor. With the correct instruments, they can diminish the chance of harm when they work with the real machinery.

5. Therapeutic VR

The field of medication contains a part to pick up from VR. In a trade where precision and comprehensive approaches to issues are of most extreme significance, virtual situations offer critical focal points over the board. The most clear of these benefits is that specialists and medical attendants can prepare in immersive recreations. Medical staff can use VR to practice surgery in a safe environment with real-time feedback.

6. VR Therapy

Physical wellbeing isn't the as it were range of wellness that VR can progress. Treating patients who have mental clutters can be a complicated handle, but VR applications offer assistance therapists and advisors investigate already unviable options. Professionals frequently treat patients with fears or related clutters with progressive presentation to the source of the issue — a handle called orderly desensitization or presentation therapy.

7. Mixed Reality

One of the foremost later progresses in VR is the concept of blended reality (MR). MR is comparable to AR in that it combines virtual and genuine components. Not at all like AR, in any case, the virtual components in MR connected with the genuine world, driving to an authentic affected VR encounter. Using innovation just like the Microsoft HoloLens, individuals can utilize MR to connected with 3D visualizations in comfortable physical situations like their living rooms.

7. ARCHITECTURE FOR VIRTUAL REALITY

Main components present in architecture of virtual reality are:

- Kernel system
- Simulation
- Driver Software packages
- Audio Devices
- Visual Output devices
- Interaction devices
- Tracking Devices
- Speaker

- Head phones

8. ADVANTAGES OF VR

- ✓ Virtual reality creates a realistic world.
- ✓ It empowers client to investigate places.
- ✓ It's fun, doesn't feel like overwhelming work.
- ✓ Through virtual reality client can test with a fake environment.
- ✓ Virtual reality makes the education more easy and interesting.
- ✓ It always gives result whether it's about studies, medical field ,training ,etc.
- ✓ It spares time as it's the most effortless and most agreeable way to memorize anything.
- ✓ Eliminates language boundary when the subject of considering in numerous country.

9. DISADVANTAGES OF VR

- ✓ The equipment's used in VR are expensive.
- ✓ Lack of flexibility(In virtual reality environment we cannot move on our own like in real world).
- ✓ It consists of complex technology, not everyone knows how to use it.
- ✓ There can be functionality issues, as it requires hardware.
- ✓ Affects connection of human with another human or real environment or world.

10. FUTURE OF VIRTUAL REALITY

- Virtual reality headsets are at long last comfortable sufficient and in vogue and the sound quality is fresh and clear. As we all know innovation is progressing day-by-day, in future it'll be like encompassed by 360 degree environment encountering a genuine environment like sitting in an plane with a wonderful see of the exterior from the window , getting a charge out of drinks and nourishment , getting a charge out of a concert with swarm cheering , kids on enterprise to diverse places , etc.
- Education can be improved and modernised at a very good rate.
- VR can be Mandatory in many platforms.
- Many money earning options can arise by using VR

REFERENCES

- [1] Bharath V G , Dr. Rajashekar Patil ; “Importance & Applications of Virtual Reality in Engineering sector”; International Journal of Scientific Research and Development (IJSRD) ; Volume 3 Issue 2 ; 2016.
- [2] R Radharamanan ; “A survey of Virtual reality technologies” , applications and limitations ; International Journal of Virtual Reality (IJVR) ; Volume 14(2) ; 2015.
- [3] Naoufel Kraiem ; “Virtual spaces and virtual manufacturing” ; IEEE ; 2001.
- [4] Saadoun M. ; “Virtual Manufacturing & its implication”; Laval ; France ; 1999.
- [5] CSIR-National Aerospace Laboratories & their Simulation based Virtual Reality

A GLIMPSE OF BLOCKCHAIN TECHNOLOGY

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INTRODUCTION

As the name suggests, a blockchain is a chain of multiple blocks containing data about transactions and other user details into it. It is a distributed database of records and in this, each transaction in the public ledger is verified by the consensus of a majority of the participants in the system.

Blockchain allows only two features i.e., read and add. The facility of update and delete is not allowed here and this only makes the technology more secure. Once data has been entered, it cannot be erased and if someone tries to do so, it could be cross-checked easily from other copies of the same record.

HISTORY OF BLOCKCHAIN

Today, what the world knows as blockchain, was first conceptualized by a person (or group of people) known as Satoshi Nakamoto. In 2008, Satoshi Nakamoto published a paper entitled "Bitcoin: A Peer-To-Peer Electronic Cash System". This paper described the peer-to-peer decentralized network which would allow online payments to be sent directly from one person to another.

The history of blockchain begins with a proposal by David Chaum in 1982, which was similar to the concept of blockchain. Thereafter, in 1991 and 1992, Stuart Haber, W. Scott Stornetta, and Dave Bayer worked on cryptographically secured blocks and Merkle trees. Later on, in 2008, Satoshi Nakamoto came up with a peer-to-peer network, which was decentralized, thus providing secure e-transactions.

This design was implemented in the form of a cryptocurrency named Bitcoin, which serves as a public ledger. Satoshi Nakamoto originally used the words Block and chain separately in his paper but eventually, it got popularized as a single word, blockchain, by 2016. The popularity of Bitcoin has never ceased to increase since then.

APPLICATIONS OF BLOCKCHAIN

Blockchain is an information structure that is secure, cryptography-based, and disseminated across an organization. It is an elaborately adjusted and favored network in cutting-edge innovation and it upholds cryptographic forms of money like Bitcoin and the exchange of any information or computerized resource.

Blockchains have made extraordinary progress over agreement among dispersed borders, allowing the exchange of computerized products without unified exchanges.

It expands the recurrence and effectiveness of exchanges and eliminates go-betweens' charges, bringing about a straightforwardness sprout that will generally kill the capacity to swindle.

There could be various applications of blockchain such as Cryptocurrencies, Smart contracts, financial services, Games, Supply chains, Domain names, etc., but the one which is most popular and which brought this technology into the market is cryptocurrency.

BLOCKCHAIN IN CRYPTOCURRENCY

Most cryptocurrencies use blockchain technology to record transactions, but the most popular one is Bitcoin. It came in 2011 in the market. It is also, controversial since it helps to enable anonymous transactions in a multibillion-dollar global market without any governmental control. However, Blockchain technology itself is non-controversial and has worked flawlessly over the years and is being successfully applied to both financial and non-financial world applications.

USE OF BLOCKCHAIN BEYOND CRYPTOCURRENCY

Despite being a great tool to aid every sphere of the modern digital life, Internet is still highly flawed in terms of the lack of security and privacy. Blockchain, the technology behind cryptocurrency, has somewhere resolved this issue by providing peer-to-peer network and removing the intermediators. Specially, for the Fin-Tech and E-commerce companies, this is a revolutionary change which will facilitate both the companies and the users with much more secure and private environment.

Since, blockchain gives an elevated degree of dependability, it is safer with enormous banks as it diminishes the gamble of hacking assaults, it is close to difficult to hack into a particular block. Thus, all the personal information of the users is sequestered while substantiating all the transactions. Likewise, it would bring about a quicker method for managing exchanges which would permit more organizations to exchange.

BLOCKCHAIN IN SUPPLY-CHAIN

As blockchain gains publicity, it's being applied in the field of the supply chain as well. It can help participant record price, date, location, quality, and other relevant information. This technique will help in managing the supply chain more effectively.

The availability of this information within the blockchain will allow traceability of the material supply chain, improve visibility and potentially enhance an organization's position as a leader in responsible manufacturing..

BLOCKCHAIN IN FINANCIAL SERVICES

Financial services are the leading sectors in blockchains which indulge in minimizing the fraud risks and managing the interrupted failures in data security services by immediate response to the system and connecting the secure business and trade services.

This would also increase transparency in transactions during a trade and make the system more reliable.

BLOCKCHAIN IN GAMES

Numerous investments have been made in the field of gaming and virtual contests; unique public addresses are given to each player for the game which also make the transactions easier.

WAY FORWARD

Bitcoin in the entire set is only one of the applications for the innovation whose utilization is being tried across ventures. Medical services, banking, schooling, power dissemination, and land record are the areas that could benefit.

Bitcoin has also brought about the formative data move, which implies that all of the data is recorded, which upgrades the simplicity of carrying on with work.

Upcoming ideas on blockchain innovation will considerably increase the exactness and effectiveness of lessening misrepresentation and dangers.

It could assume a vital part in health care coverage guarantee the board by diminishing the gamble of fakes. What's more, forestall the offer of medications in the nation by following each progression of store network organization. Also, computerized reasoning and the web of things (IoT) can acquire hugely from blockchain applications. Where a great many gadgets would have to execute continuously quickly.

CONCLUSION

Consideration of blockchain by Indian banks can assist with deflecting fakes at Punjab National Bank and can reinforce the public foundations, including the legal executive.

Pandemic like Covid – 19 viruses has impacted instructive establishments overall and it seems like the boundless use of advanced innovation in schooling endures. With better speculations, mechanical ability, and government mediations, blockchain innovation is the corridor between correspondence and modernization.